

Executive Summary

For

Integrated Manufacturing Cluster (IMC), Rajpura-Patiala

Located at

Village- Sehra, Sehri, Aakri, Pabra and Takhtu Majra,

Tehsil- Rajpura, District- Patiala, Punjab

by

Punjab Urban Planning & Development Authority (PUDA)

Project Schedule 7(c) - 'Industrial estates/ parks/ complexes/ areas, export processing Zones (EPZs), Special Economic Zones (SEZs), Biotech Parks, Leather Complexes'

Category- 'B'

Project Area: 1098.25 Acres

(TOR Letter No. SEIAA/MS/2022/4987 dated 06th January 2022)

(Baseline Monitoring Period – April,2021 to June, 2021)

Submitted by



M/s Eco Paryavaran Laboratories & Consultants Pvt. Ltd.

Eco Bhawan, E-207, 204 & 205, Industrial Area, Phase VIII-B (Sector-74)

Mohali (Punjab) - 160071.

www.ecoparyavaran.org

(QCI NABET Accreditation No. - NABET/EIA/2023/RA 0211 dated 10.09.2021)

(In-house Lab, NABL Accreditation No. – TC-7477 dated 28.04.2022)



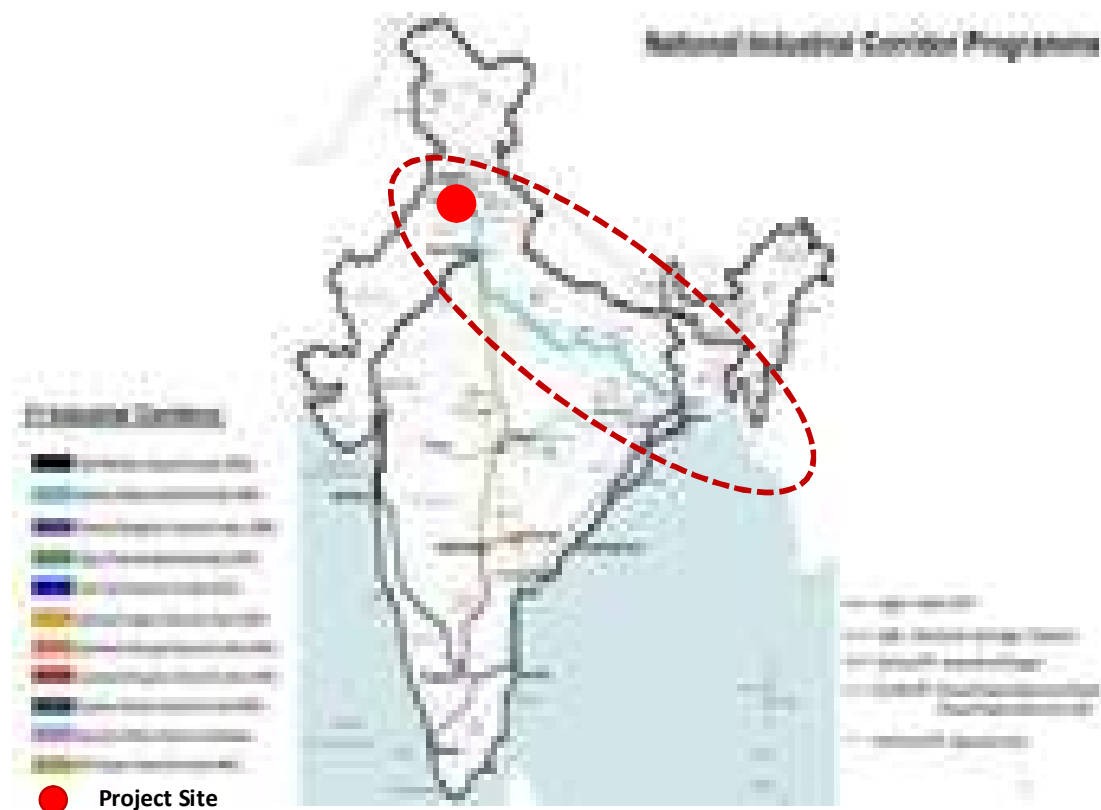
(EIA Consultant to Antea Group)

June,2022

EXECUTIVE SUMMARY

1.0 PROJECT DESCRIPTION

The Government of India (GoI) is developing various Industrial Corridor projects as part of the National Industrial Corridor programme. The Amritsar Kolkata Industrial Corridor (AKIC) is one amongst the eleven corridors promoted by GoI; AKIC is conceptualized along the high capacity, high-speed Eastern Dedicated Freight Corridor (EDFC) as the backbone and runs parallel to the Golden Quadrilateral and its diagonals, thus enhancing the attractiveness for investments. The Rajpura Patiala IMC is one of the eight Industrial Nodes under the Amritsar-Kolkata Industrial Corridor (AKIC). National Industrial Corridor Development Corporation Limited (NICDC) which is nodal agency appointed by GoI for conducting necessary studies for development of IMC.





Integrated Manufacturing Cluster is a new project proposed at Village- Sehra, Sehri, Aakri, Pabra and Takhtu Majra, Tehsil- Rajpura, District- Patiala, Punjab by M/s Punjab Urban Planning & Development Authority (PUDA).

The plot area of the project is 1098.25 Acres (or 4,444,460 sq.m.). National Industrial Corridor Development Corporation Limited (NICDC) which is nodal agency appointed by GoI for conducting necessary studies for development of IMC. Land is in possession of Punjab Urban Planning and Development Authority (PUDA) which is also the nodal agency to coordinate and supervise the project development activities related to IMC project.

The proposed project falls in Category 'B' under Schedule 7(c) - 'Industrial estates/ parks/ complexes/ areas, export processing Zones (EPZs), Special Economic Zones (SEZs), Biotech Parks, Leather Complexes' as per EIA Notification, 2006 and its amendment thereof.

The ToR letter was issued by SEIAA, Punjab vide Letter No. SEIAA/MS/2022/4987 dated 06th January 2022.

The salient features of the project will be as under:

Total Area: 1098.25 Acres (4,444,460 sq.m.)

Project cost: The estimated cost of project is Rs. 1367.72 Crores including Rs. 385 Crores for land, Rs. 854.53 Crores for Infrastructure Development cost (including GST), Rs. 51.27 Crores for O&M and Rs. 76.92 Crores for Contingencies cost.



Interlinked projects: None.

2.0 LOCATION & CONNECTIVITY

The site lies between the local planning area boundaries of Rajpura and Patiala cities in Punjab. The delineated site area includes part of five villages namely Pabra, Takhtu Majra, Aakri, Sehra and Sehri. The total site area of Rajpura-Patiala IMC is 1098.25 acre. It is linear, about 5.5 Km long, with varying widths. Its width varies between 2Km in the north to about 460m in the central part. The site is contiguous and gently sloping from North to the South. In addition, a land parcel of 0.6 acre in the southwest of the site, which is a disjoint parcel and is reserved for future development. A seasonal drain (Nim Sahib Drain) passes through proposed IMC site, which acts as a natural drainage network for 10 surrounding villages. Two (2) revenue roads are crossing through the site connecting surrounding villages. Three HT lines (2 no. 400 KV and 1 no 220 KV) are passing through the site area. The land is devoid of any cultivation or tree cover. The entire land of the IMC is already under the ownership of PUDA.



The site is accessible through SH-8. The proposed site is well connected as described in the table below:



Highways	The site is accessible through SH-8. The proposed site has easy connectivity to the National Highways- NH-64 and NH-1
Nearest Railway Station	Kauli Railway Station: Approx. 4.5 km Rajpura Junction: Approx. 7.9 km D.M.W Railway Station, Patiala: Approx. 10.8 km
Nearest DFC Station	Sarai Banjra: Approx. 10.8 km
Nearest Airport	Patiala Airport: Approx. 18.9 km Ambala Airport: Approx. 30.1 km Chandigarh International Airport: Approx. 33.5 km
Logistics Hub (Dry Port/ICD)	Ludhiana ICD, at Dhandari Kalan station: Approx. 80.7 km Ludhiana ICD, at Kila Raipur station: Approx. 89.4 km Logistics Zone at Shambhoo (Rajpura): Approx. 21 km Chandigarh ICD, at Dappar: Approx. 45.9 km
Sea Port/Inland Waterways	Kandla Port, Gujrat: Approx. 1,290 km Kolkata Port, West Bengal: Approx. 1,768 km

There are no Wildlife sanctuaries or National Park within 10 km radius of the project location. Map showing project location

3.0 BRIEF FEATURES OF PROJECT

Table 1: Size/magnitude of operation of project

S. No.	Parameters	Description
1.	Identification of the project	The project Industrial Manufacturing Cluster falls under Schedule 7(c) - 'Industrial estates/ parks/ complexes/ areas, export processing Zones (EPZs), Special Economic Zones (SEZs), Biotech Parks, Leather Complexes as per EIA Notification dated 14 th September, 2006 and its subsequent amendments.



2.	Project Proponent	M/s Punjab Urban Planning & Development Authority (PUDA) E-mail: deprojpuda@gmail.com
3.	Brief description of nature of the project	Perspective Plan for overall AKIC region has envisaged IMC Rajpura ant Village- Sehra, Sehri, Aakri, Pabra and Takhtu Majra, Tehsil- Rajpura, District- Patiala, Punjab. The plot area of the project is 1098.25 Acres (or 4,444,460 sq.m.). Land is in possession of Punjab Urban Planning and Development Authority (PUDA) which is also the nodal agency to coordinate and supervise the project development activities related to IMC project. National Industrial Corridor Development Corporation Limited (NICDC) which is nodal agency appointed by GoI for conducting necessary studies for development of IMC.
4.	Salient Features of the Project Proposed	
4.1	Area Details	The plot area of the project is 1098.25 Acres (or 4,444,460 sq.m.).
4.2	Location	Project is located at Village- Sehra, Sehri, Aakri, Pabra and Takhtu Majra, Tehsil- Rajpura, District- Patiala, Punjab. Google Earth Image showing the project site and surroundings within 500 m is attached as Drawing-2 . The first and last co-ordinates of project location are: A: 30°28'58.77"N and 76°29'24.07"E AF: 30°28'48.71"N and 76°29'35.87"E Toposheet showing location of the project is enclosed as Drawing 3 .
4.3	Water requirement	Source of water: Akash Distributary. Further, water supply from Ground water through bore wells will be taken as an alternate supply



		<p>during the time when Akash distributary is being cleaned for a month in June. Permission will be obtained from PWRDA for abstraction of groundwater.</p> <table border="1"> <thead> <tr> <th>Description</th> <th>Water requirement (MLD)</th> </tr> </thead> <tbody> <tr> <td>Industrial Water Requirement</td> <td>14.19</td> </tr> <tr> <td>Residential Water requirement</td> <td>1.73</td> </tr> <tr> <td>Industrial Domestic Water Requirement</td> <td>1.67</td> </tr> <tr> <td>Non-Industrial Domestic Water Requirement</td> <td>1.08</td> </tr> <tr> <td>Visitors Water requirement</td> <td>0.09</td> </tr> <tr> <td>Horticulture</td> <td>3.98</td> </tr> <tr> <td>Road washing requirement</td> <td>0.74</td> </tr> <tr> <td>Total green area & Road washing requirement inside the plot</td> <td>2.92</td> </tr> <tr> <td>Total (MLD)</td> <td>26.4</td> </tr> </tbody> </table>	Description	Water requirement (MLD)	Industrial Water Requirement	14.19	Residential Water requirement	1.73	Industrial Domestic Water Requirement	1.67	Non-Industrial Domestic Water Requirement	1.08	Visitors Water requirement	0.09	Horticulture	3.98	Road washing requirement	0.74	Total green area & Road washing requirement inside the plot	2.92	Total (MLD)	26.4
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4.4	Wastewater	<p>Total sewage generated from domestic processes will be 3.64 MLD which will be treated in STPs of capacity 2.4 MLD & 1.4 MLD.</p> <p>Total industrial effluent generated from industrial processes will be 9.93 MLD which will be treated in CETP of capacity 10 MLD to be constructed on module basis.</p>																				
4.5	Man Power	<p>Approx. 32,274 employments are likely to generate through direct and indirect method. Details of direct and indirect employment likely to be generate from proposed industries are given below</p>																				



		Total Employment Generation			
		Industries	Direct	Indirect	Total Employment
		Fabricated Metal Products	203	152	355
		Food & Beverages	557	418	975
		Machinery & Equipment	216	162	379
		MSME	1140	855	1995
		Pharma Medicinal Chemicals and Botanical Products	32	24	57
		Rubber & Plastic Products	788	591	1378
		Textiles & Apparels	13863	10398	24261
		ESDM	1287	965	2251
		Chemical	258	193	451
		Logistic	98	74	172
		Total	18442	13832	32,274
4.6	Power requirement	216.3 MVA which will be provided by Punjab State Power Corporation Limited (PSPCL). Total 9 Nos. of D.G. sets with overall capacity 2,730 KVA (1 X 250 KVA, 2 X 380 KVA, 3 X 180 KVA, 1 X 180 KVA, 2 X 500 KVA) will be provided for power back up during operational phase.			
4.7	Alternative site	The AKIC connects Amritsar (Punjab) to Dankuni (West Bengal). The AKIC will have an influence area across eight Indian states – Punjab, Haryana,			



		<p>Uttarakhand, Uttar Pradesh, Bihar, Jharkhand, and West Bengal. Perspective plan has been prepared for the AKIC corridor by NICDC, identifying at least one IMC in each of the 8 states. The Rajpura Patiala IMC is the first being implemented in Punjab, where the site has been selected by the Punjab government.</p> <p>Punjab Government has given in-principle approval to the Rajpura Patiala Integrated Manufacturing Cluster (IMC) spread over 1098.25 acres. It is expected that this IMC would, beginning with an initial 206 acres, grow in a phased manner around Rajpura and would take the shape of an entire industrial agglomeration. The implementation of IMC will begin in short run. Housing Department, PUDA, Govt of Punjab has acquired 1098.25 acres in the Rajpura Patiala Integrated Manufacturing Cluster (IMC) in 2020, part of which lies in Rajpura masterplan and majority in Patiala Development Plan.</p> <p>Land use of all the 5 Villages involved has been changed to industrial. Further, the site has multi-nodal connectivity through Rail, Road, Dry Port, Airport. Internet connectivity is also available. Also gas pipelining will be available in future. Considering all these options Rajpura Patiala Integrated Manufacturing Cluster (IMC) was selected.</p>
4.8	Land form, Land use and Land ownership	<p>The plot area of the project is 1098.25 Acres (or 4,444,460 sq.m.). Land is in possession of Punjab Urban Planning and Development Authority (PUDA). The present land use is a rural and agricultural land with some scanty vegetation and water bodies. Almost half of the land falling under fallow typology with one crop or no crop within a year. Change in</p>



	Land use has been obtained for all the five villages.
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4.0 METEOROLOGY

Meteorological data was obtained for the summer season monitoring period April to June, 2021. The predominant winds are mainly flowing from South-East, with the secondary wind direction being from the North-West.

5.0 AIR QUALITY

PM_{2.5}, PM₁₀, SO₂ and NO₂ levels (Criteria Pollutants), O₃, CO as well as NH₃ were monitored at eight locations from April, 2021 to June, 2021 within the 10 km study area by M/s Eco Paryavaran Laboratories & Consultants Pvt. Ltd (formerly known as M/s Eco Laboratories & Consultants Pvt. Ltd). Monitoring stations were kept keeping in view of the dominant wind direction. On an average, the observed levels are as follows: PM₁₀ from 97.2 µg/m³ to 82 µg/m³, PM_{2.5} varies from 55.6 µg/m³ to 47 µg/m³, SO₂ from 11.5 µg/m³ to 7.7 µg/m³ and NO₂ from 24.8 µg/m³ to 17.1 µg/m³. The results when compared with National Ambient Air Quality Standards (NAAQS) of Central Pollution Control Board (CPCB) for "Industrial/ Residential/ Rural and Other Areas", it was observed that all the average values of SO₂, NO₂, CO and PAH were well within the prescribed limits. Average value of particulate dust as PM₁₀ & PM_{2.5} are well within the 24 hours average NAAQ standards of 100 µg/m³ and 60 µg/m³ respectively.

6.0 NOISE QUALITY

A total of 6 locations within the study area at nearby location and 5 locations within project have been selected for measurement of ambient noise levels during the baseline monitoring period (April, 2021 to June, 2021). Noise levels varied from 45 dB(A) and 64 dB(A) during the day time and were 36 dB(A) and 52 dB(A) during night time in the study area. The obtained noise levels are well within prescribed limits for industrial area whereas marginally higher to prescribed limits for residential/sensitive areas indicating annoying environment for population and sensitive receptors. Noisy environmental conditions are mainly associated to traffic movement on road network (national highways, state highways and connecting roads) and other agro and domestic activities in the region.

7.0 WATER QUALITY

Groundwater monitoring was done at 8 locations at project and within study area. The ground



water test results indicate that water is good in quality and safe for drinking purpose (Drinking Water Specifications as per IS 10500). In the study area, since the samples have been collected from different sites at isolated places, the level of concentration and different elements vary quite considerably. However, the levels of the various components are within acceptable/ permissible norms for drinking water.

Surface water monitoring was also done at 5 locations within the 10 km radius of the project site. Bacterial contamination was found in surface water. However, fresh water to be taken from Akash Distribuatry will be used after treatment.

As no effluent will be allowed to discharge outside the industries to be located at IMC. Hence, surface water quality will not be affected due to the industry.

8.0 SOIL QUALITY

The soil samples were collected from project location and at 7 other locations within study area. The soil analysis results in the study area indicates that soil is neutral in nature and Sandy loam/ Sandy clay loam texture with medium class of fertility in the study area.

9.0 ECOLOGY

No endangered/rare floral and faunal species were found within 10 km radius of the project site. No other ecologically sensitive area like biosphere reserve, tiger reserve, elephant reserve, migratory corridors of wild elephant, wetland, national park and wildlife sanctuary are present within 10 km distance of the project location. Project lies in proposed Industrial Landuse as per Master plan of Rajpura & Patiala.

10.0 ANTICIPATED ENVIRONMENTAL IMPACTS & MITIGATION MEASURES

10.1 AIR QUALITY

The pollutants from the project will be from the upcoming manufacturing industries, DG sets and due to vehicular movement and material handling. DG will be used as source of power supply and will be used in case of power failure only. HSD/ LDO oil will be used as fuel in DG sets. Adequate stack height & acoustic enclose will be provided to DG set. Individual industries will install air pollution control equipment like cyclone / multi-cyclones water scrubbers to meet applicable stack outlet emission standards.



10.2 NOISE QUALITY

The operation of machineries, DG set, vehicular traffic etc. are the major sources of noise during operation phase of the project. DG. Set will be provided with acoustic enclosures and operated only during the power failure. All the workers engaged at and around high noise generating sources are being provided with ear protection devices like ear mufflers/ plugs. They will be regularly subjected to medical check-up for detecting any adverse impact on the ears. The green belt will also help to prevent noise generated within the plant from spreading beyond the plant boundary. Workplace ambient level is not expected to be beyond 75 dB(A) during day time and 71 dB(A) during night time which is much below the limit specified for 8 hours of exposure.

10.3 WATER QUALITY

10.3.1 Domestic Effluent

Domestic wastewater will be treated in proposed STP of capacity 2.4 MLD & 1.4 MLD and treated water will be reutilized for flushing purpose.

10.3.2 Industrial effluent

Industrial effluent will be treated in proposed CETP of capacity 10 MLD and treated water will be reused within the premises.

10.4 SOLID WASTE

10.4.1 DOMESTIC WASTE

26.50 Metric Tonnes/day total waste (Municipal solid waste + Construction demolition Waste) will be generated from the project after full occupancy, which will be properly collected and segregated into biodegradable and non-biodegradable waste. In the IMC, biodegradable waste generation would be 8.31 TPD which will be treated in the compost plant. In the IMC the non-biodegradable waste generation would be 12.46 TPD. Out of which non-combustible, non-recyclable waste material of 5.11 MT will be treated on site with Ecodross machine. An approximate area of 3000 sq mt will be required for the same. For the hazardous waste material of 5.11 MT, storage provision will be provided in the IMC for 7 days, before sending it to the landfill site at Dhudhar Village, Patiala. Space will be allocated in the 2-acre SWM site for storage of the same.

10.4.2 HAZARDOUS WASTE

Domestic hazardous waste material of 5.11 MT will be stored in the IMC for 7 days, before sending it to the landfill site at Dhudhar Village, Patiala. Hazardous waste to be generated by individual industry will be handled by them only. Sludge from CETP will be disposed to



TSD and used oil will be sent to authorized recyclers. Temporary storage facility shall be provided within the industry. Storage period of not more than 90 days and records of the same shall be maintained by the industry. The industry owner shall be responsible for safe and environmentally sound handling of hazardous wastes generated in his establishment. Collection of hazardous waste shall be done by trained staff only while using appropriate protective clothing. The transport shall be in accordance with the provision of Hazardous Waste Management Rules, 2016.

11.0 GREENERY DEVELOPMENT

15.32% Masterplan Green area is proposed. In addition, the individual units will allot 18% for green, so that the total green area will become 33%. Locally available tree species which are resistant to pollutants will be planted. Tree plantation around the plant helps to arrest the effects of particulate matter and gaseous pollutants in the area besides playing a major role in environmental conservation efforts. The green belt would:

- mitigate gaseous emissions
- have sufficient capability to arrest accidental release
- effective in wastewater reuse
- maintain the ecological balance
- control noise pollution to a considerable extent
- prevent soil erosion
- improve the Aesthetics

All the species suggested are pollution tolerant, besides having an aesthetic appeal.

12.0 ENVIRONMENTAL MONITORING PLAN

The environment monitoring plan enables environmental management system with early sign of need for additional action and modification of ongoing actions for environment management, improvement and conservation. The environmental monitoring points will be decided considering the environmental impacts likely to occur due to the operation of project as the main scope of monitoring program is to track, timely and regularly, the change in environmental conditions and to take timely action for protection of environment. Monitoring of environmental samples will be done as per the guidelines provided by MoEF&CC/ CPCB/ PPCB. Rs. 35 Lakhs has been reserved for Environment Monitoring Plan. Separate records for water, wastewater, air & stack emission will be maintained regularly. Along with other



budgets, budget for environmental management will be prepared and revised regularly as per requirement.

13.0 RISK MITIGATION MEASURES

Even with all precautions, disasters may take place. As such, an Emergency Plan will be formulated to take care of any disaster in the plant and surrounding areas. In order to prevent occurrence of any disaster, the project will be provided with various safety and disaster control facilities.

14.0 PUBLIC CONSULATION

Public hearing for establishment of IMC will be conducted by Punjab Pollution Control Board (PPCB). The proceedings of the same will be incorporated in the final EIA report.

15.0 PROJECT BENEFITS

The IMC Rajpura-Patiala is also one of the first development to kick start the development for overall 8 nodes under AKIC. The development of the AKIC as a manufacturing hub will generate a series of direct and indirect benefits through enhancement of GDP, promoting development of manufacturing industries and generate significant employment. The development of IMC with best sustainable development practices will create benchmarks for urban development in the country.

With the development of project, it is expected that the following broad benefits would flow to the society:

- a. Localizing the global/domestic value chain
- b. Shifting of manpower resources from low productivity to high productive activities
- c. Technology transfer
- d. Improved working condition
- e. Foreign Direct Investment
- f. New employment generation due to the construction and development activity in the project area
- g. Integrated skill development centre will lead to training to the local population.

It has been envisaged during the costing of Master Plan that project will bring the investment of Rs. 7,500 Crores in the vicinity. Further, proposed project will also enhance the state GDP. The IMC area is estimated to generate employment of about 32,724 from



Industrial and 14,880 from non-industrial support amenities by the year 2029, when the IMC is fully operational. The employment in service industry has been projected from both secondary as well as primary sources. However, the projections consider only permanent service employments expected in the IMC.

16.0 CORPORATE ENVIRONMENT RESPONSIBILITY (CER)

With reference to the Office Memorandum dated 30.09.2020, CER is now a part of Environment Management plan. Further, being a govt. project, M/s Punjab Urban Planning & Development Authority (PUDA) will undertake the following activities under CER:

1. Will provide the plots at IMC on subsidized rate
2. Develop dispensary, nursing home at IMC which are also open for nearby villagers to improve their health status.
3. Establish Schools, Skill development institute, training centers at IMC which are open for nearby villagers, so that nearby villagers can get training in various activities and generate self-employment themselves or upgrade their skill for various job opportunities.

Apart of the above, M/s Punjab Urban Planning & Development Authority (PUDA) has reserved the amount for the issues to be raised during public hearing and will be undertaken as CER activities.

17.0 ENVIRONMENTAL MANAGEMENT PLAN

There will be dedicated Environment Management Cell for the implementation of EMP. All recommendations given in the EIA report including that of occupational health, risk mitigation and safety will be complied. Capital cost for the pollution control equipment for project is estimated to be Rs. 190.29 crores and recurring cost per year will be Rs. 6.76 crores. Greenbelt and greenery development inside and outside the plant premises will be intensified by the SPV. Guidelines issued by the Central Pollution Control Board (CPCB) on greenbelt development will be followed. Environmental awareness programs for the employees will be conducted. SPV will ensure cleanliness inside the plant.

